REMARKS

Claim Amendments

Claims 1 and 4 have been amended to recite that the antimicrobial compound consists solely of tetrahydroiso-alpha acids. Support for this amendment can be found in the application as filed. See, for example, page 6, lines 4-11. As per 37 CFR §1.116(b) and MPEP 714.12/714.13, the amendments place the case either in condition for allowance or in better form for appeal, and thus are believed to be suitable for entry.

103(a) Rejection

Claims 1-4 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,548,552 (US '552) in view of U.S. Patent No. 6,313,178 (US '178). However, as amended, Applicants respectfully submit that US '552 and US '178 cannot establish a prima facie case of obviousness because neither of US '552 or US '178, alone or in combination, teach or suggest an antimicrobial diaper using tetrahydroiso-alpha acids.

The Examiner is suggesting that it would be obvious for one of skill in the art to substitute the beta form of hop acids(hexahydro-beta acids) taught in US '178 with the alpha form of hop acids (tetrahydroiso-alpha acids) recited in the present claims. Applicants respectfully submit that nothing in US '552 or US '178 teaches or suggests this modification.

As the Examiner notes, US '552 does not teach the use of tetrahydroiso-alpha acids as a compound effective in treating toxic shock syndrome. However, the Examiner goes on to allege that US '178 does (see the Office Action at page 2, paragraph 5, line 3), and thus, it would be obvious to combine US '552 with US '178 to achieve the present invention . Applicants submit this is incorrect.

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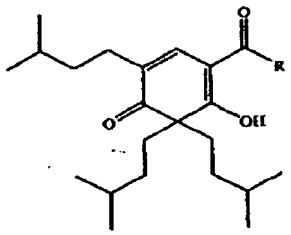
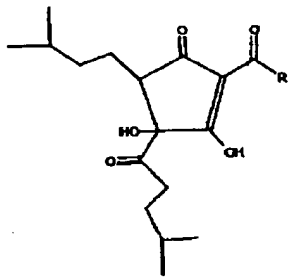
A close reading of US '178 shows that this reference is directed to the use of beta form of hop acids according to the following structure:



In contrast, the present claims, as amended, recite the use of an antimicrobial compound consisting of tetrahydroiso-alpha acids. Tetrahydroiso-alpha acids, the alpha form of hop acids, have the following structure (see Exhibit A):



US '178 is silent regarding the use of tetrahydroiso-alpha acids to inhibit *Staphylococcus aureus*. In fact, US '178 teaches away from this by clearly teaching the anti-tumor effects of alpha hop acids (see US '178 at column 1, lines 33-35). Further, nothing in US '178 teaches or suggests that the alpha form of hop acids have the same inhibitory effect against *Staphylococcus aureus* as the beta form of hop acids has. Thus, Applicants submit that it would not be obvious to substitute the antimicrobial functions of beta hop acids with alpha hop acids.

Further, it is clear from the very different structures of the alpha and beta forms of hop acids that one cannot assume these acids will have the same function. Thus, absent any disclosure teaching or suggesting that the alpha and beta forms of hop acids will have similar effects against *Staphylococcus aureus*. Applicants submit that it would not be obvious to one of skill in the art to modify the use of beta hop acids as taught in US '178 to include the use of

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alpha hop acids as recited in the present claims.

Accordingly, Applicants believe that the prior art does not provide suggestion or motivation to make the proposed modification. In other words, the prior art teaches away from the modification.

Conclusion

In light of the above amendments and remarks, Applicants respectfully submit that claims 1 to 4 are patentable over the prior art. Favorable reconsideration is respectfully requested.

A sheet is attached for the two month extension. No additional fees are believed to be needed for this amendment. However, if additional fees are needed, please charge them to Deposit Account No. 17-0055.

Respectfully submitted,

Dated: January 11, 2006

By: 

Richard T. Roche
Registration No. 38,599
Quarles and Brady LLP
411 East Wisconsin Ave.
Milwaukee, WI 53202
(414) 277-5805

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BARTH-HAAS GROUP

Tetrahop Gold®

General:
Tetrahop Gold® is an aqueous alkaline solution of the potassium salts of tetrahydro-iso-α-acids. It is produced from CO_2 hops extract using a patented all aqueous process. Tetrahop Gold® is classified by the U.S. FDA as a modified hop extract that may be safely used in beer in accordance with the regulation 21 CFR 172.560 (b) (6).

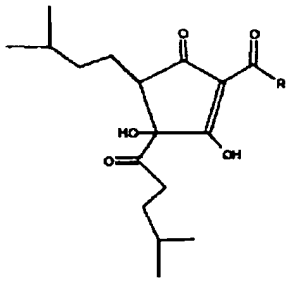

Fig.1: Chemical structure of tetrahydro-iso-alpha-acids

Characteristics:
Tetrahop Gold® enhances beer foam when used as a post fermentation replacement for a part of the normal bittering. In the absence of normal α- and iso-α-acids, Tetrahop Gold® will give complete protection from the formation of light-struck flavour. Furthermore, it will act as an antimicrobial agent when added to beer.

Product specifications:

Description:	A yellow to amber coloured, aqueous solution of the potassium salts of tetrahydroiso-alpha-acids.
Concentration:	Standard concentration is 9.0% ± 0.5 (w/w) of tetrahydro-iso-α-acids by HPLC (any deviation from this concentration is because we agree to supply to different customer specs).
PH:	8.5–11.0
Density:	1.017 (± 0.005) g/ml (at 20℃/68℉)
Viscosity:	5.08 mPas (at 20℃)
Solubility:	Soluble in pH-adjusted, demineralized water and ethanol
Iso-α-acids:	< 0.1% w/w
Heavy metals:	Meets current EU and US FDA regulations
Lead:	Meets current EU and US FDA regulations

EXHIBIT
A

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